

Masternode - Detailed setup

To start CIF masternode on a dedicated server you will need:

- 100000 CIF collateral
- server with Ubuntu (18.04) and static IP (Vultr or Linode)
- CIF Core on local machine
- basic Linux skills

Setup VPS

Switch to dedicated user CIFUSER (can be anything):

```
adduser cifuser
usermod -aG sudo cifuser
su cifuser
```

Prepare the system:

```
sudo apt-get update
sudo apt-get upgrade
sudo apt-get install git python-virtualenv virtualenv fail2ban ufw
sudo apt-get install build-essential libtool autotools-dev automake pkg-config
libssl-dev libevent-dev bsdmainutils
sudo apt-get install libboost-all-dev
sudo add-apt-repository ppa:bitcoin/bitcoin
sudo apt-get update
sudo apt-get install libdb4.8-dev libdb4.8+-dev
sudo apt-get install libminiupnpc-dev libzmq3-dev
sudo ufw allow ssh/tcp
sudo ufw limit ssh/tcp
sudo ufw allow 43100/tcp
sudo ufw allow 43199/tcp
sudo ufw logging on
sudo ufw disable
sudo ufw enable
sudo fallocate -l 4G /swapfile
sudo chmod 600 /swapfile
sudo mkswap /swapfile
sudo swapon /swapfile
sudo nano /etc/fstab
```

enter the following file at the end:

```
/swapfile none swap sw 0 0
```

Install CIF on VPS

```
git clone https://github.com/CIF-Github/CIF-Core.git
cd CIF-Core && cd depends && make
cd .. && ./autogen.sh && ./configure --without-gui && make && sudo make install
cifd -daemon
cif-cli stop
```

Build CIF on local machine

```
sudo apt-get install git build-essential libtool autotools-dev automake pkg-config
libssl-dev libevent-dev bsdmainutils
sudo apt-get install libminiupnpc-dev
sudo apt-get install libzmq3-dev
sudo apt-get install libboost-all-dev
sudo add-apt-repository ppa:bitcoin/bitcoin
sudo apt-get update
sudo apt-get install libdb4.8-dev libdb4.8++-dev
git clone https://github.com/CIF-Github/CIF-Core.git
cd CIF-Core && cd depends && make
cd .. && ./autogen.sh && ./configure && make && sudo make install
cifd -daemon
cif-cli stop
```

You could also download [binaries](#) instead of building the source. Open your local CIF wallet (`cif-qt`) and let it sync with the network. After downloading the blockchain you can create masternode address with the key. Open debug console to enter `masternode genkey` and `getaccountaddress mn`. Send 100000 CIF to just generated `mn` address.

Edit `cif.conf` in your VPS datadir

```
cd ~ && cd .cifcore
nano cif.conf
```

Insert following:

```
#- - -
rpcuser=XXX
rpcpassword=XXX
rpccallowip=127.0.0.1
rpcport=43100
#- - -
listen=1
server=1
daemon=1
#- - -
masternode=1
masternodeprivkey=XXX
externalip=XXX.XXX.XXX.XXX
```

- `rpcuser/password` might be random
- `externalip` is your VPS static address
- `masternodeprivkey` is generated with `masternode genkey`

Finish local wallet setup

Go to your local datadir and edit masternode.conf to make it look like example below

```
mn1 207.246.65.01:43199 93HaYBVUCYjEMezH1Y4sBGLALQZE1Yc1K64xiqgX37tGBDQL8Xg
7603c20a05258c208b58b0a0d77603b9fc93d47cfa403035f87f3ce0af814566 0
mn2 207.246.65.02:43199 92Da1aYg6sbenP6uwskJgEY2XWB5LwJ7bXRtc3UPeShtHWJDjDv
5d898e78244f3206e0105f421cdb071d91d111a51cd88eb5511fc0dbf4bfd95f 1
```

- mn1 is the alias of your masternode
- 207.246.65.01:43199 is the IP address of your VPS and CIF RPC port 43100
- 93HaYBVUCYjEMezH1Y4sBGLALQZE1Yc1K64xiqgX37tGBDQL8Xg is your masternode private key
- 5d898e78244f3206e0105f421cdb071d91d111a51cd88eb5511fc0dbf4bfd95f 1 is the mn transaction output from masternode outputs

Install Sentinel on the VPS

```
sudo apt-get update
sudo apt-get install python-virtualenv
sudo apt-get install virtualenv
cd ~ && cd .cifcore
git clone https://github.com/CIF-Github/sentinel.git
cd sentinel
virtualenv venv
venv/bin/pip install -r requirements.txt
```

Now you need to add Sentinel to cron. Enter `crontab -e` and insert following line:

```
* * * * * cd /home/cifuser/.cifcore/sentinel && ./venv/bin/python bin/sentinel.py
2>&1 >> sentinel-cron.log
```

Check Sentinel:

```
venv/bin/python bin/sentinel.py
```

If the node still syncing - you will see "dashd not synced with network! awaiting full sync before running Sentinel."

Wait until the process is finished (check status with `cif-cli mnsync status`). After the wallet will download the blockchain, test Sentinel again with

```
venv/bin/python bin/sentinel.py
```

If nothing's returned - Sentinel is working properly.

Start your masternode

Go to your local wallet's masternode tab (on/off switch in Options) and start your masternode.